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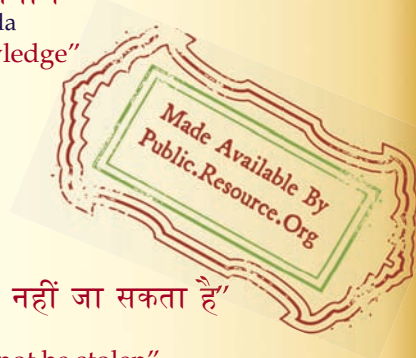
IS 11230 (1985): Leather for utility glove [CHD 17:  
Leather, Tanning Materials and Allied Products]



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“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard*  
SPECIFICATION FOR  
LEATHER FOR UTILITY GLOVE

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**INDIAN STANDARDS INSTITUTION**  
**MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG**  
**NEW DELHI 110002**

# Indian Standard

## SPECIFICATION FOR LEATHER FOR UTILITY GLOVE

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( *Continued on page 2* )

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( Continued from page 1 )

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# *Indian Standard*

## SPECIFICATION FOR LEATHER FOR UTILITY GLOVE

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 15 March 1985, after the draft finalized by the Leather Sectional Committee had been approved by the Chemical Division Council.

**0.2** A glove is a flexible but close-fitting adornment for the most active body appendage, and further the odd shaped member is capable of movement within itself in almost every direction.

**0.3** Leather become effectively mildew-resistant without adversely influencing its non-toxic character by treating it with 0.1 percent of sodium trichlorophenate or *O*-phenyl phenate based on dry weight of the finished leather. Any other fungicide or a combination of fungicides which is known to be harmless to skin in small dosages may be substituted, but the optimum dosage should be worked out by experiment.

**0.3.1** Extreme caution is to be exercised since the excess dosage of fungicide is harmful and often causes chaffing, irritation and dermatitis. To arrive at the optimum dosage of effective and non-toxic fungicides, the method given in LB : 3 of IS : 6191-1971\* shall be followed.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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### 1. SCOPE

**1.1** This standard prescribes the requirements and the methods of test and sampling for full chrome, semi chrome and chrome-aluminium combination tanned leathers for utility glove.

\*Methods of micro-biological colour fastness and microscopical tests for leather.

†Rules for rounding off numerical values (*revised*).

## 2. TERMINOLOGY

**2.1** For the purpose of this standard, the definitions given in IS : 1640-1960\* shall apply.

## 3. TYPES

**3.1** This standard covers three types of the material as follows:

- a) Type 1 — Full chrome tanned ( CT )
- b) Type 2 — Semi chrome tanned ( SCT )
- c) Type 3 — Chrome-aluminium combination tanned ( CAT ).

## 4. REQUIREMENTS

**4.1 Raw Material** — The material shall be sheep, goat or calf skins free from grain defects.

**4.2 Tanning** — The skin shall be suitably tanned, either by chrome or a combination of chrome and aluminium salts or vegetable tanning materials in combination with chrome tanning salts with or without the use of syntans. They shall be dyed fast and fat liquored, and shall have good run.

**4.3 Fungicide Additives** — At the end of tanning operation before drying, suitable fungicide shall be incorporated in the leather.

**4.3.1** Fungicides used to promote resistance to fungi in the leather shall be effective and non-toxic.

**4.4 Physical Requirements** — The material shall comply with the physical requirements given in Table 1.

**4.5 Chemical Requirements** — The material shall also comply with the chemical requirements given in Table 2.

**4.6 Mildew Resistance** — The material shall not support mould growth.

**4.6.1** The material shall show no growth of mildew, when examined visually after the completion of the test prescribed in LB : 2 of IS : 6191-1971†.

**4.7 Resistance to Perspiration** — The material shall not show any change in area and shall not be stiff after completion of perspiration test as prescribed in LF : 7 of IS : 6191-1971†.

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\*Glossary of terms relating to hides, skins and leather.

†Methods of micro-biological colour fastness and microscopical tests for leather.

**TABLE 1 PHYSICAL REQUIREMENTS FOR LEATHER FOR UTILITY GLOVES**

( Clause 4.4 )

Sl. No.	CHARACTERISTIC	REQUIREMENT			METHOD OF TEST, REF TO	
		Type 1	Type 2	Type 3	IS : 5914-1970*	IS : 6191-1971†
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Tensile strength, kgf/cm <sup>2</sup> , <i>Min</i>	150	150	150	LP : 6	—
ii)	Elongation at break, per- cent, <i>Min</i>	40	40	40	LP : 6	—
iii)	Double hole stitch tear strength, kg/cm thick- ness, <i>Min</i>	50	50	50	LP : 8	—
iv)	Shrinkage temperature in °C, <i>Min</i>	85	95	85	LP : 10	—
v)	Colour fastness:					
a)	Contrast grading after 1 024 revolution ( dry )	4	4	4	—	LF : 1
b)	Contrast grading after 1 024 revolution ( wet )	4	4	4	—	LF : 1
c)	Contrast grading after perspiration test ( staining )	3	3	3	—	LF : 7

\*Methods of physical testing of leather.

†Methods of micro-biological colour fastness and microscopical tests for leather.

## 5. MARKING

**5.1** The leather pieces or packages or both shall be marked with area; the name of the manufacturer; recognized trade-mark, if any; type; and month and year of manufacture.

**5.2** The leather pieces or packages or both may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

TABLE 2 CHEMICAL REQUIREMENTS FOR LEATHER FOR UTILITY GLOVES

( Clause 4.5 )

Sl No.	CHARACTERISTIC	REQUIREMENT			METHOD OF TEST, REF TO CL No. IN IS : 582-1970*
		Type 1	Type 2	Type 3	
(1)	(2)	(3)	(4)	(5)	(6)
i)	Total ash, percent by mass, <i>Max</i>	3.0 ( Over $\text{Cr}_2\text{O}_3$ Content )	1.5	3.0 ( Over sum of $\text{Cr}_2\text{O}_3$ and $\text{Al}_2\text{O}_3$ Con- tent )	LC-3
ii)	Oils and fats, percent by mass	8-12	8-14	8-12	LC-4
iii)	Chromium ( as $\text{Cr}_2\text{O}_3$ ), per- cent by mass, <i>Min</i>	3.0	1.5	2.0	LC-10
iv)	Aluminium ( as $\text{Al}_2\text{O}_3$ ), per- cent by mass, <i>Min</i>	—	—	1.5	LC-11
v)	Hide substance, percent by mass	—	40 to 45	—	LC-5
vi)	pH of water solubles	Not below 3.2	Not below 3.5	Not below 3.2	LC-20

NOTE — All requirements are to be calculated on zero percent volatile matter basis except Sl No. (vi). Volatile matter shall be determined as prescribed in LC : 1 of IS : 582-1970\*.

\*Methods of chemical testing of leather ( *first revision* ).

## 6. PACKING

6.1 The leather pieces shall be packed as agreed to between the purchaser and the supplier.

## 7. SAMPLING AND CRITERIA FOR CONFORMITY

7.1 The scale of sampling and criteria for conformity shall conform to IS : 5868-1983\*.

\*Method of sampling for leather ( *first revision* ).